

CLAIMS

1. Apparatus for secure routing of a signalling or transmission means which comprises:

a first open-sided open-ended elongated channel member through which said means is routed;

a first cover for closure of an open side of said first channel member; said first channel member and said first cover in combination forming a hollow first conduit section;

a locking device to lock said first cover to said first channel member, said locking device being releasable only from within said first channel member; and

release means for releasing said locking device and accessible through an open end of said first channel member;

whereby said hollow first conduit section can be disassembled only by release of said locking device by access through an open end of said conduit section.

2. Apparatus as in Claim 1 further comprising a second channel member and a second cover which upon being joined together form a second hollow conduit section which may be abutted to an end of said first conduit section to form an elongated conduit, with locking together of said first channel member and said first cover also serves to lock together said second channel member and said second cover, such that said elongated conduit can be disassembled only by release of said locking device by access through said open end of said elongated conduit.

3. Apparatus as in Claim 2 further comprising at least one end of said elongated conduit being seated in an aperture in an enclosure such that access to hollow interior of said conduit and to said release means is only through said enclosure.

4. Apparatus as in Claim 2 further wherein said elongated conduit comprises a plurality of said second conduit sections with at least one said first conduit section, with interiors of all of said first and second conduit sections being accessible only through an end of said elongated conduit.

5. Apparatus as in Claim 4 further comprising one said first conduit section with said locking device at or adjacent to each end of said elongated conduit, such that unlocking and disassembly of a first conduit section may be accomplished from any end of said conduit.

6. Apparatus as in Claim 5 further comprising each said end of said elongated conduit being seated in an aperture in an enclosure such that access to hollow interior of said conduit and to said release means is only through said enclosure.

7. Apparatus as in Claim 6 wherein each said end is seated in a different said enclosure.

8. Apparatus as in Claim 7 wherein each said enclosure is itself a secure enclosure.

9. Apparatus as in Claim 4 further comprising said plurality of said second sections being interspersed with at least one hollow routing section comprising a raceway and top cover, said routing section serving to alter the linear direction of said elongated conduit or to divide said elongated conduit into a plurality of branches.

10. Apparatus as in Claim 1 wherein said signalling or transmission means comprises electrical or electronic cabling or wiring or fluid conveyance tubing.

11. Apparatus as in Claim 10 wherein said cabling or wiring comprises wire or optical fiber cabling.

12. Apparatus as in Claim 10 wherein said fluid conveyance tubing comprises gas or liquid pneumatic or hydraulic lines.

13. Apparatus for secure routing of signalling or transmission means between a first location and a second location, which comprises:

an elongated conduit with an end at each of said first and second locations, comprising a plurality of interconnecting elongated hollow conduit sections, each

conduit section comprising an interconnected raceway having an open side and cover closing said open side, said raceway and cover forming an open interior extending through said conduit and providing said routing of said signalling or transmission means through said conduit;

at least a raceway of a first one of said conduit sections having an open side and said interconnected cover covering said open side and being releasable from said raceway, said cover having a first aperture therein;

a locking device seated on an exterior of said open side of said raceway with a portion thereof projecting into said interior of said raceway and being secured thereto, and said locking device having a second aperture therein;

a latching bracket releasably mounted on said cover with a portion thereof projecting through said first aperture in said cover and said second aperture in said locking device;

latching means within said conduit for releasably engaging said latching bracket and retaining said portion of said bracket in position projecting through said first and second apertures, thereby releasably securing said cover in place covering said open side of said raceway; and

latch release means within said conduit and attached to said latching means and operable only through an end of said conduit, for releasing said latching means from engagement with said latching bracket such that said cover may be disengaged from said raceway member and access gained to said interior of said conduit;

whereby said interior of said conduit and any signalling or transmission means routed therethrough are accessible only through said open end of said conduit.

14. Apparatus as in Claim 13 further comprising at least one other of said conduit sections not having said locking device therein, and which may be abutted to an end of said first conduit section to form said elongated conduit, with locking together of raceway and cover of said first conduit section also serves to lock together said raceway and cover of said other conduit section, such that said elongated conduit can be disassembled only by release of said locking device by access through said open end of said elongated conduit.

15. Apparatus as in Claim 13 further comprising at least one end of said elongated conduit being seated in an aperture in an enclosure such that access to hollow interior of said conduit and to said release means is only through said enclosure.

16. Apparatus as in Claim 13 further comprising one said first conduit section with said locking device at or adjacent to each end of said elongated conduit, such that unlocking and disassembly of a first conduit section may be accomplished from any end of said conduit.

17. Apparatus as in Claim 16 further comprising each said end of said elongated conduit being seated in an aperture in an enclosure such that access to hollow interior of said conduit and to said release means is only through said enclosure.

18. Apparatus as in Claim 17 wherein each said end is seated in a different said enclosure.

19. Apparatus as in Claim 18 wherein each said enclosure is itself a secure enclosure.

20. Apparatus as in Claim 14 further comprising said plurality of said other sections being interspersed with at least one hollow routing section comprising a raceway and top cover, said routing section serving to alter the linear direction of said elongated conduit or to divide said elongated conduit into a plurality of branches.

21. Apparatus as in Claim 20 wherein said routing section comprises a conduit section having a T-, Y-, L- or X-shaped or other multipath configuration.

22. Apparatus as in Claim 21 wherein said routing section comprises a raceway and interfitting cover forming a hollow interior with a latching apparatus disposed therein and manually operable to releasably secure said raceway and cover together.

23. Apparatus as in Claim 22 wherein said latching apparatus comprises interfitting pin receivers extending respectively from said raceway and said cover and secured together with a pin interfitting with said receivers.

24. Apparatus as in Claim 21 wherein a plurality of paths of said multipath routing section include locking devices such that said raceway and said top cover of said routing section cannot be separated without release of all said locking devices within said routing section.

25. Apparatus as in Claim 13 wherein each said raceway and each said cover therefor are generally U-shaped in cross-section.

26. Apparatus as in Claim 25 further comprising said cover closing said open side of said channel by being inverted and disposed over said raceway with respective parallel side walls overlapping, thereby forming a secure tubular member with each end thereof being open.

27. Apparatus as in Claim 26 wherein raceway comprises parallel sides forming said U-shaped cross-section with each of said parallel sides having a longitudinal rib disposed on the inner surface thereof.

28. Apparatus as in Claim 27 further comprising said locking device having projections extending into said interior of said conduit, said projections having securing means associated therewith engaging each said longitudinal rib on said parallel walls, thereby securing said locking device in place.

29. Apparatus as in Claim 28 wherein said securing means comprises laterally retractably extending pins which engage the underside of said ribs.

30. Apparatus as in Claim 29 wherein retraction of said pins permits disengagement of said locking device from said cover and raceway.

31. Apparatus as in Claim 29 wherein said pins are urged into engagement with said underside of said ribs by spring means.
32. Apparatus as in Claim 28 wherein said securing means comprises bolts which clamp said locking device to both a top surface of said conduit and to said ribs.
33. Apparatus as in Claim 13 wherein said latching means is reversibly operable by an elongated strand or spring means extending from said latching means into an adjacent section of said elongated conduit.
34. Apparatus as in Claim 33 wherein said latching means is manipulated manually or by mechanical, electromechanical, pneumatic or hydraulic means.
35. Apparatus as in Claim 15 wherein said latching means is reversibly operable by an elongated strand or spring means extending from said latching means of said elongated conduit into an enclosure and exiting from an end thereof inside said enclosure for manipulation through said enclosure.
36. Apparatus as in Claim 35 wherein said latching means is manipulated manually or by mechanical, electromechanical, pneumatic or hydraulic means.
37. Apparatus as in Claim 13 wherein said signalling or transmission means comprises electrical or electronic cabling or wiring or fluid conveyance tubing.
38. Apparatus as in Claim 13 wherein said cabling or wiring comprises wire or optical fiber cabling.
39. Apparatus as in Claim 13 wherein said fluid conveyance tubing comprises gas or liquid pneumatic or hydraulic lines.